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48. Device according to claim 47, wherein the at least one insulating layer (20) is a vitreous or ceramic dielectric layer which after a firing process is under pressure pretension relative to the flow tube wall (16).

49. Device according to claim 48, wherein the linear thermal expansion coefficient (TEC_{DE}) of the baked dielectric layer (20) is smaller than the linear thermal expansion coefficient (TEC_M) of the flow tube wall (16), the difference between the linear thermal expansion coefficients (TEC_{DE} - TEC_M) amounting to at least $5.0\ 10^{-6}\ K^{-1}$.

50. Device according to claim 47, wherein the insulating dielectric layer (20) comprises a system of materials including preformed glass, vitreous ceramics or ceramics suitable for wetting, at a predetermined baking temperature, the surface of the flow tube wall (16) which is of metal, said insulating dielectric layer (20) being at least partially in a crystalline state.

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51. Device according to claim 50, wherein the system of materials includes at least one further glass which does not become crystalline under predetermined baking conditions.

52. Device according to claim 50, wherein the system of materials comprises at least one compound which is crystalline a priori.

53. Device according to claim 47, wherein the dielectric layer (20) is a baked-on foil or a baked-on thick-film paste.

54. Device according to claim 53, wherein the solid components portion of the thick-film paste consists exclusively of a glass that crystallizes in situ at a temperature range above 900 °C.

55. Device according to claim 47, wherein the linear thermal expansion coefficient (TEC_{DE}) of the insulating dielectric layer (20) is between $5 \cdot 10^{-6}\ K^{-1}$ and $7 \cdot 10^{-6}\ K^{-1}$.

56. Device according to claim 47, wherein the insulating dielectric layer (20) includes a gap in a longitudinal direction of the flow tube wall (16).

57. Device according to claim 47, wherein the heating layer (22) includes heating conductors (23) adjusted to power demand.

58. Device according to claim 47, wherein at least one electrically insulating cover layer (24) tops the heating layer (22).

59. Device according to claim 58, wherein at least one interlayer (26) is provided between the insulating dielectric layer (20), the heating layer (22) or the cover layer (24).

60. Device according to claim 47, wherein there is at least one further layer (28) whose electrical resistance depends on the temperature of the heating layer (22) and/or of the flow tube wall (16), the resistor layer (28) forming a thermoelement.

61. Device according to claim 60, wherein the resistor layer (28) and the heating layer (22) lie in one plane.

62. Device according to claim 60, wherein the insulating dielectric layer (20), the heating layer (22), the cover layer (24), the interlayer (26) and the resistor layer (28) are baked-on foils or baked-on thick-film pastes.

63. Device according to claim 60, wherein the insulating dielectric layer (20), the heating layer (22), the cover layer (24), the interlayer (26) and the resistor layer (28) form a layer compound.

64. Hot runner nozzle comprising a heating device according to claim 47, the heating

device (10) being fixed onto a cylindrical flow tube (13), a rod, a manifold branch or the like.

65. Method for manufacturing a heating device (10) for hot runner systems, in particular hot runner manifolds and/or hot runner nozzles (12) having at least one mold mass flow tube (13), wherein the at least one insulating dielectric layer (20) is applied by direct coating in an adherent manner onto a wall (16) of the flow tube (13) and is coated by said at least one heating layer (22) having heating conductors (23).

66. Method according to claim 65, wherein at least one insulating layer (20) is a ceramic dielectric layer.

67. Method according to claim 65, wherein the heating layer (22) includes heating conductors (23).

68. Method according to claim 65, wherein at least one electrically insulating layer (24) is deposited on the or each heating layer (22).

69. Method according to claim 68, wherein at least one interlayer (26) is inserted between the dielectric layer (20), the heating layer (22) and the cover layer (24).

70. Method according to claim 65, wherein at least one further layer (28) is deposited or inserted whose electrical resistance depends on the temperature of the heating layer (22) or of the flow tube wall (16).

71. Method according to claim 70, wherein each of the layers (20, 22, 24, 26, 28) is separately deposited using foil technology, thick-film technology or screen printing.

72. Method according to claim 70, wherein the layers (20, 22, 24, 26, 28) are

deposited using thick-film technology by way of pastes applied in a round-about printing process.

73. Method according to claim 70, wherein each of the layers (20, 22, 24, 26, 28) is separately deposited and is subsequently baked-on.

74. Method according to claim 70, wherein all the layers (20, 22, 24, 26, 28) are separately deposited and are simultaneously baked-on by co-firing.

75. Method according to claim 70, wherein baking is effected at a firing temperature between 800 °C and 1,100 °C.

76. Method according to claim 65, wherein the at least one insulating dielectric layer (20) is provided with a gap in a longitudinal direction of the flow tube wall (16).

77. Method according to claim 70, wherein the flow tube wall (16) to be coated consists of a hardened or solidifiable material whose hardening temperature is not exceeded by the firing temperature of any of the layers (20, 22, 24, 26, 28).

78. Method according to claim 77, wherein the process of hardening the flow tube wall (16) is performed during at least one of the firing processes, the firing conditions being adjusted to the hardening temperature.

79. Method according to claim 78, wherein the flow tube wall (16) is inductively heated to hardening or firing temperature.

80. Method according to claim 65, wherein during the firing process, a pressure pretension is produced within the insulating dielectric layer (20) relative to the flow tube wall (16).

81. Method according to claim 80, wherein a mismatch is made of the linear thermal

expansion coefficient (TEC_{DE}) of the baked dielectric layer (20) relative to the linear thermal expansion coefficient (TEC_M) of the flow tube wall (16), depending on the expansion-relevant characteristics of said wall (16), the difference between the linear thermal expansion coefficients (TEC_{DE} - TEC_M) amounting to at least 5.0 10^{-6} K^{-1}.

82. Method according to claim 65, wherein the linear thermal expansion coefficient (TEC_{DE}) of the insulating dielectric layer (20) is between 5.0 10^{-6} K^{-1} and 7.0 10^{-6} K^{-1}.

83. Method according to claim 65, wherein the insulating dielectric layer (20) is produced by firing a vitreous-crystalline material onto the flow tube wall (16), said material comprising at least one preformed glass which at firing temperature wets the metal surface and which at least partially assumes a crystalline state.

84. Method according to claim 83, wherein said material comprises at least one further glass which does not become crystalline under firing conditions.

85. Method according to claim 83, wherein said material comprises at least one compound that is crystalline a priori.